#### PHMC Environmental Management Performance Report – December 2001 Section I – 200 Area Materials and Waste Management



## Section I 200 Area Materials & Waste Management

## **PROJECT MANAGERS**

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## INTRODUCTION

The 200 Area Materials and Waste Management consists of Project Baseline Summary (PBS) RL-CP02, Work Breakdown Structure (WBS) 3.3.2, except for ERDF.

NOTE: Cost/Schedule data contained herein is as of December 31, 2001. All other information is as of December 31, 2001 unless otherwise noted.

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that one milestone was completed early.

### **NOTABLE ACCOMPLISHMENTS**

**Hanford TRU Certification** — The Hanford Surveillance of Plutonium Finishing Plant (PFP) Non-Destructive Assay (NDA) and Visual Examination (VE) Technique was completed December 18-19, 2002. The Environmental Protection Agency (EPA) and Carlsbad Field Office (CBFO) auditors identified no deficiencies associated with the PFP NDA activities or NDA data. One Corrective Action Report (CAR) was issued related to training of the VE technique Independent Technical Reviewer (ITR). The CAR is minor and does not impact any VE technique data collected to date.

**Transuranic (TRU) Program Production (TRU Drums)** — FY 2002 through January 24, 2002: NDE - 86; NDA - 80; Glovebox Repackaging - 62.

Accelerate Readiness to Receive Spent Nuclear Fuels (SNF) K Basin Sludge — The Operational readiness Review (ORR) Corrective Action Plan was completed and transmitted to RL for approval on December 26, 2001. RL approved the Plan, without change, on January 7, 2002. An Independent Assessment Team of Subject Matter Experts has been contracted by Waste Management (WM) to validate T Plant readiness for fuel movement, and RL is developing a Verification Plan to oversee that readiness validation process. Cell cleanout commenced December 12, 2001; cell 10L has been completed.

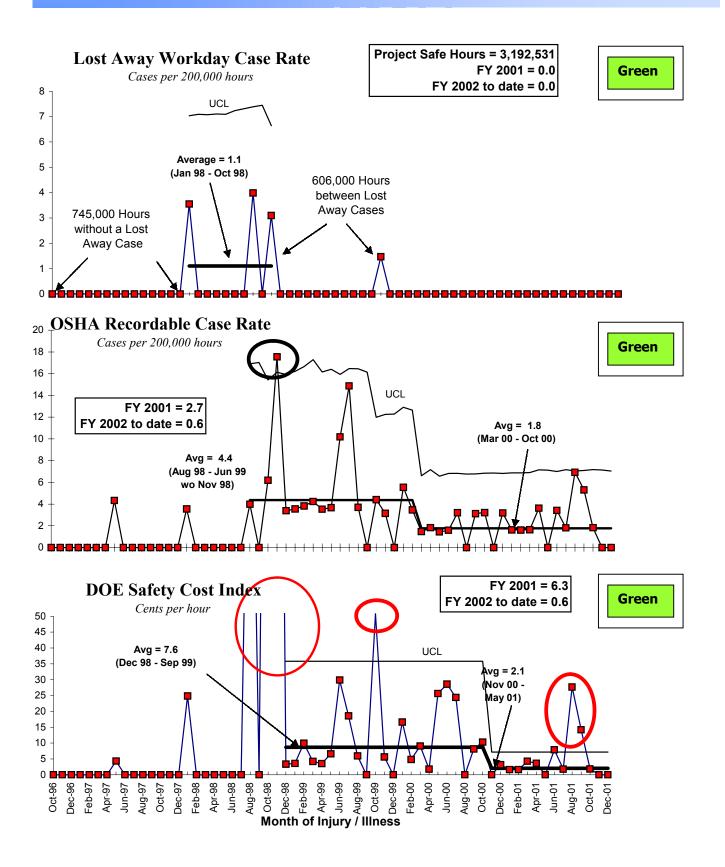
**TRU Waste Retrieval** — Completed retrieval of exposed suspect TRU drums in the 200 Area Low-Level Burial Grounds.

**Support to 300 Area Cleanup** — Supported removal of final Solid Waste Disposal Box from the 324 Facility pipe trench clean out. The box was accepted and is in storage at the Central Waste Complex. Exception requests to RL were completed to allow for storage and transport of the 327 building Curium/Americium sources.

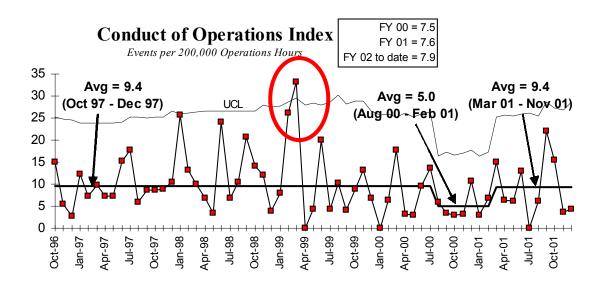
**Liquid Waste Processing** — Processed over 8 million gallons of wastewater through the 200 Area Effluent Treatment Facility (ETF) thus far in FY 2002 supporting a variety of generators, including the Environmental Restoration Contractor (200-UP-1 Groundwater). Initiated the RCRA campaign on January 16, 2002.

## **SAFETY**

Waste Management received a Fluor recognition award for 3 million save work hours. The last lost time injury occurred October 1999. The project has had only one "recordable" injury year to date and will achieve a recordable rate of 0.45 at the end of January. The FH project wide recordable rate goal is 0.9.



## **CONDUCT OF OPERATIONS**



### Breakthroughs / Opportunities for Improvement

#### **BREAKTHROUGHS**

Waste Management is proceeding with plans to modify the Waste Retrieval and Packaging (WRAP) low-level waste glovebox line to allow its use for transuranic waste processing and supercompaction. This conversion will improve WRAP operating reliability, increase throughput capacity, and through the application of supercompaction to waste destined for WIPP, will offer considerable return on investment (savings) over the FH contract period. Matching funding to support this effort (\$355K in FY02, \$115K in FY 2003) was obtained from EM-50 through the Accelerated Site Technology Deployment program. The Technical Task Plan for managing the modification project is being finalized this week, and work is expected to proceed shortly thereafter. The conversion is anticipated to be completed by the second quarter of FY 2003.

Waste Management continues to identify means of the reducing costs of operating its facilities. Plans are being developed to implement "integrated facility infrastructure support" between the Waste Encapsulation and Storage Facility (WESF) and the 200 Area Liquid Waste Processing Facility. "Infrastructure Support" is defined as those programs/functions necessary to support ongoing operations at Nuclear, Radiological and Hazardous facilities. Emergency Preparedness, Corrective Action Management, and Radiological Control are examples of these support functions.

#### **OPPORTUNITIES FOR IMPROVEMENT**

No opportunities for improvement are identified at this time.

### **UPCOMING ACTIVITIES**

**Accelerate Readiness to Receive SNF K Basin Sludge** — 1) Complete FH validation of readiness and the RL Operational Readiness Review (ORR) for Shippingport (PA) fuel, 2) Initiate Shippingport fuel movement, and 3) Accelerate T Plant Canyon cell cleanout.

**MLLW Treatment** — Continue characterization and direct disposal activities. These include PFP HEPA filter and T Plant Ventilator unit disposition, both of which should conclude in May 2002. Activities also include verification and void fill of backlog soils drums at T Plant.

**Headspace Sampling Confirmatory Testing** — Following contractual direction from RL, confirmatory testing of the "gas-tight seal" headspace gas sampling method will be performed. The results of the confirmatory testing will be provided to CBFO to support submittal of a permit modification to the Waste Isolation Pilot Plant (WIPP) Resource Conservation and Recovery Act (RCRA) Permit. This permit modification is necessary to utilize characterization data from 204 TRU waste drums previously sampled using this method. CBFO has reviewed the test methodology prepared by FH with only minor comments.

**Headspace Gas Performance Demonstration Cycle** — Test samples for the annual headspace gas performance demonstration cycle are scheduled to be delivered to Hanford on February 5, 2002. Successful analysis of the samples is required to maintain certification of the Hanford TRU waste headspace gas program. The results of the analysis will be submitted within 30 days of receipt of the samples.

**TRU Waste Retrieval** — Continue technical planning to support buried drum retrieval start-up in FY 2002.

**EPA Approval of PCB Remediation Waste Disposal** — Request for EPA approval for disposal of Poly-chlorinated Bi-phenol (PCB) remediation waste has been transmitted to EPA. EPA has concurred with the request and will provide written approval no later than February 28, 2002. This approval will allow disposal of PCB remediation waste (i.e., T Plant Canyon Cleanout Waste) in the 200 West Area Mixed Waste Disposal Trench.

**Plutonium Finishing Plant (PFP) Support** — Continue to support Hanford ash processing with completion of POC shipments through February 2002. Continue receiving stabilized direct discard waste solutions through March 2002.

**300 Area Cleanup Support** — Support the removal of a Curium/Americium source from the 327 Facility.

**Waste Encapsulation and Storage Facility (WESF) Operations** — Prepare for G Cell window change out scheduled to begin in January. Prepare for DNFSB 2000-2 Phase II assessment of Confinement Ventilation Systems and Fire Protection System. In-field portion has been rescheduled to March 2002.

**Liquid Waste Processing** — Continue groundwater processing at the 200 Area ETF. Complete the RCRA campaign in early February 2002.

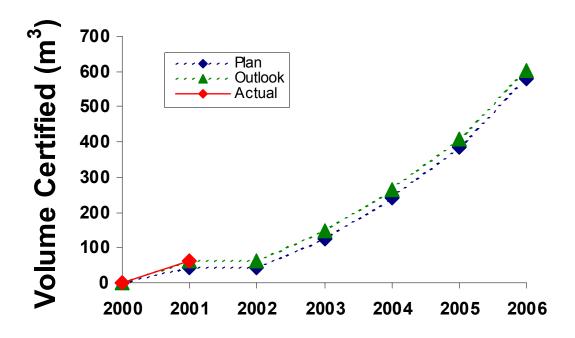
## MILESTONE ACHIEVEMENT FH Contract Milestones

Number	Milestone Title	Туре	Due Date	Actual Date	Forecast Date	Status / Comment	
M-19-00	Complete Treat/Disp 1,644 CM of CH-LLMW	TPA Enforceable	09-30-02	10-23-00	10-23-00	COMPLETE	
M-7-1E	Complete T Plant preparation for storage of K Basins sludge	PI Base	10-30-02		12-31-02	Cell Cleanout behind schedule.	
M-7-2A	Complete ORR for K Basins Sludge Receipt	PI Base	10-30-02		10-30-02	ON SCHEDULE	
M-91-12A	Treat 240 Cubic Meters by 12/31/2002	TPA Enforceable	12-31-02		12-31-02	Unachievable. Formal notification to RL by 2/8/02.	
M-91-20	T Plant ready to rec. canister of K Basin floor pit sludge	TPA Enforceable	12-31-02		12-31-02	ON SCHEDULE	
M-26-05J	Prep Biennial Tritium Treatment Tech Evaluation Report	TPA Enforceable	08-31-03		08-31-03	ON SCHEDULE	
M-7-2B	Complete Readiness Assessment K Basins Canister & Fuel Sludge Receipts	PI Base	01-01-04		01-01-04	ON SCHEDULE	
M-7-3B	De-Post T Plant Canyon as Airborne Radiation Area	PI Stretch	01-01-04		01-01-04	ON SCHEDULE	
M-91-22	T Plant ready to rec. Canister & fuel wash sludge from K Basin	TPA Enforceable	02-29-04		02-29-04	ON SCHEDULE	
M-91-07	Complete W-113 for Post 1970 CH TRU / TRUM Retrieval	TPA Enforceable	09-30-04		09-30-04	Under renegotiation. Date TBD	
M-1-2	Consolidate Sitewide SNF in 200 A Dry Storage	PI Base	02-28-05		02-28-05	ON SCHEDULE	
M-26-05L	Prep Biennial Tritium Treatment Tech Evaluation Report	TPA Enforceable	08-31-05		08-31-05	ON SCHEDULE	
M-5-2	Complete Thermal Treatment 600 m <sup>3</sup> MLLW by 12/31/05	PI Base	12-31-05		12-31-05	ON SCHEDULE	
M-5-1B	Complete Treatment / Disposal 9820 m³ of MLLW	PI Stretch	06-30-06		06-30-06	ON SCHEDULE	
M-7-3C	Clear Remaining Stored Equipment from T Plant Canyon Deck	PI Stretch	06-30-06		06-30-06	ON SCHEDULE	

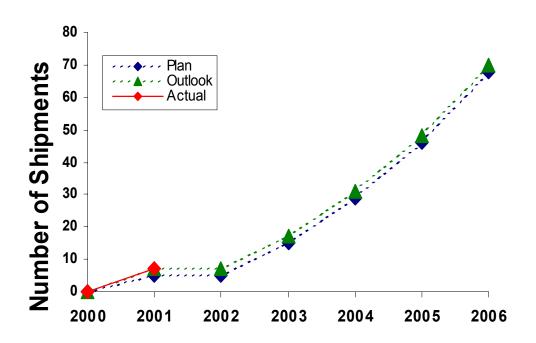
M-4-1D	Retrieve 15,200 Suspect TRU Waste	PI Stretch	09-30-06	09-30-06	ON SCHEDULE
M-6-1A	Certify 580 m <sup>3</sup> of TRU waste	PI Stretch	09-30-06	09-30-06	ON SCHEDULE
M-6-1B	Complete 68 TRU Waste Shipments to WIPP	PI Stretch	09-30-06	09-30-06	ON SCHEDULE

## **PERFORMANCE OBJECTIVES**

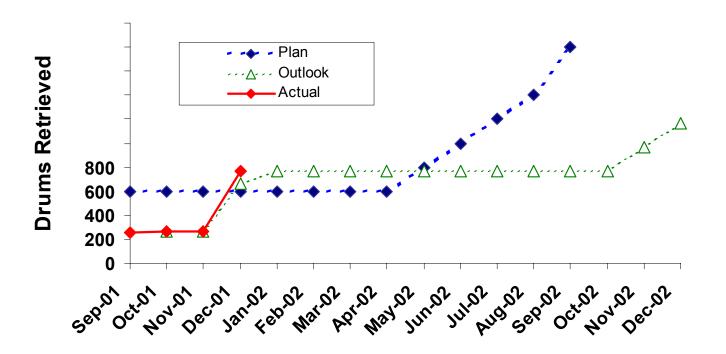
### **CERTIFY TRU WASTE (FHI-M6)**



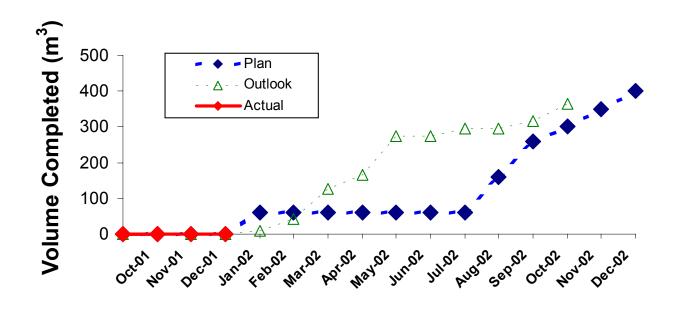
## SHIP TRU WASTE (FHI-M6)



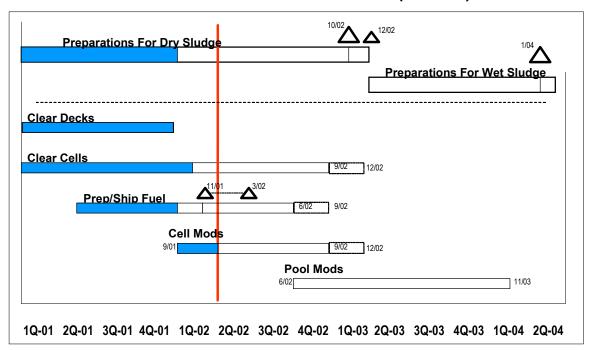
### **RETRIEVE TRU WASTE (FHI-M4)**



### TREAT AND DISPOSE MLLW (FHI-M5)



## ACCELERATE READINESS TO RECEIVE K-BASIN SLUDGE (FHI-M7)



# FY 2002 SCHEDULE / COST PERFORMANCE – ALL FUND TYPES FY TO DATE STATUS – (\$000)

		FYTD																
			BCWS	BCWP		ACWP			sv	%		CV	%		BAC		EAC	
PBS CP02 WBS 3.3.2.1	SW Storage & Disposal	\$	2,537		2694	\$	2,659	\$	157	6%	\$	35	1%	\$	11,379	\$	11,379	
PBS CP02 WBS 3.3.2.2	MLLW Treatment	\$	120	\$	111	\$	129	\$	(9)	-8%	\$	(18)	-16%	\$	3,458	\$	3,458	
PBS CP02 WBS 3.3.2.3	SW Treatment	\$	2,208	\$	2,572	\$	3,206	\$	364	16%	\$	(634)	-25%	\$	10,678	\$	10,678	
PBS CP02 WBS 3.3.2.4	TRU Program	\$	2,697	\$	3,624	\$	2,653	\$	927	34%	\$	971	27%	\$	13,310	\$	13,310	
PBS CP02 WBS 3.3.2.5	WESF	\$	1,726	\$	1,710	\$	1,660	\$	(16)	-1%	\$	50	3%	\$	7,717	\$	7,717	
PBS CP02 WBS 3.3.2.6	200 A LWPF	\$	3,246	\$	3,459	\$	3,463	\$	213	7%	\$	(4)	0%	\$	15,750	\$	15,750	
PBS CP02 WBS 3.3.2.9	Project Management	\$	4,766	\$	4,980	\$	4,049	\$	214	4%	\$	931	19%	\$	18,877	\$	18,877	
	Total	\$	17,300	\$	19,150	\$	17,819	\$	1,850	11%	\$	1,331	7%	\$	81,170	\$	81,170	

## FY TO DATE SCHEDULE / COST PERFORMANCE

The \$1.9 million (11 percent) favorable schedule variance was primarily due to the progress on and/or completion of FY 01 carryover work scope and credit taken for the TRU Program for work completed in FY 2001. The favorable variance was offset by the T-plant ORR for the spent fuel removal being stopped to resolve and implement assessment comments.

The \$1.3 million (7 percent) favorable cost variance was primarily due to FY 2001 carryover workscope costing less than planned, contracts not being placed and credit taken for the TRU Program for work completed in FY 2001. Increased costs for the T-Plant spent fuel removal ORR preparation and assessment corrective actions offset the favorable variance.

For all active sub-PBSs and TTPs associated with the Operations/Field Office, Fiscal Year to Date (FYTD) Cost and Schedule variances exceeding + / - 10 percent or one million dollars require submission of narratives to explain the variance.

## Schedule Variance Analysis: (+\$1.9M)

#### SW Storage & Disposal — 3.3.2.1/CP02

**Description/Cause:** The favorable schedule variance is due to the FY 2001 carryover work scope, and the MO-720 roof replacement.

**Impact:** There is no significant project impact at this time.

Corrective Action: No corrective action needed.

#### **SW Treatment — 3.3.2.3/CP02**

**Description/Cause:** The favorable schedule variance is due to the FY 2001 work scope, T Plant prefilter replacement, being completed in November and the continued effort on the T Plant fan replacement project. The favorable variance was offset by the T Plant ORR for spent fuel removal being stopped to resolve and implement assessment comments.

**Impact:** Spent Fuel removal is behind schedule and impacts are being evaluated.

**Corrective Action:** ORR corrective actions are being implemented and a path forward for spent fuel removal have been implemented.

#### **TRU Program— 3.3.2.4/CP02**

**Description/Cause**: The favorable schedule variance is due to BCWP taken in October for 3 WIPP shipments completed in FY 2001 and NDE/NDA being ahead of schedule in FY 2002. Also, the FY 2001 TRU retrieval activity for uncovered drums was completed in January.

**Impact:** There is no significant project impact at this time.

**Corrective Action:** No corrective action needed.

## Cost Variance Analysis: (+\$1.3M)

#### MLLW Treatment — 3.3.2.2/CP02

**Description/Cause:** The unfavorable cost variance is a result of helping the treatment vendor resolve bankruptcy issues.

**Impact:** Unknown at this time until the court rulings are made.

**Corrective Action:** Alternative treatment and characterization activities are being evaluated.

#### **SW Treatment** — 3.3.2.3/CP02

**Description/Cause:** The unfavorable cost variance is due to the increased costs for the T Plant ORR preparation and assessment corrective actions.

**Impact:** Cost impacts are being evaluated.

**Corrective Action:** Actions will be taken once a path forward is approved to resolve cost impacts.

#### **TRU Program— 3.3.2.4/CP02**

**Description/Cause:** The favorable cost variance is due to BCWP taken in October for 3 WIPP shipments completed in FY 2001 and completion of FY 2001 carryover work scope.

**Impact:** There is no significant project impact at this time.

Corrective Action: No corrective action needed.

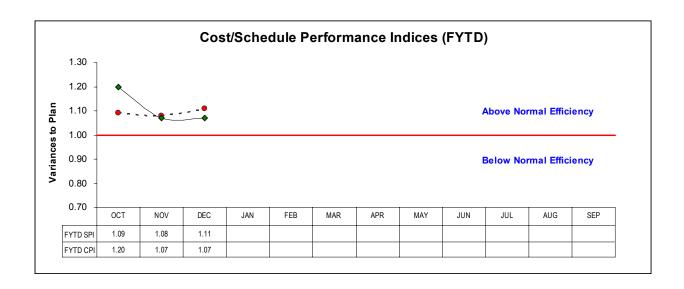
#### **Project Management — 3.3.2.9/CP02**

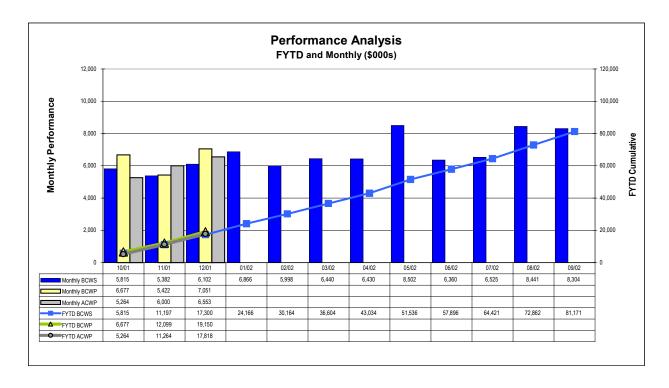
**Description/Cause:** The favorable cost variance is a result of contract work not yet initiated for CSER's, SW EIS and CDI.

**Impact:** There is no significant project impact at this time.

**Corrective Action:** Contract's are planned to be placed in January.

# COST / SCHEDULE PERFORMANCE (MONTHLY AND FYTD)





# FUNDS MANAGEMENT FYTD FUNDS VS. SPENDING FORECAST (\$000)

		Expected Funds		FYSF		FH eallocation	Funds Variance (Expected vs. Reallocation)		
3.3.2 Waste Management CP02	\$	79,523	\$	81,856	\$	77,353	\$	2,170	
 Total	\$	79,523	\$	81,856	\$	77,353	\$	2,170	

[Status through December 2001]

NOTE: FH Reallocation reflects an FYSF adjusted for scope deletions, deferrals, and identified savings to address funding shortfalls, additional unplanned scope, and cost increases.

### **ISSUES**

#### **Technical Issue**

**Issue:** Shippingport fuel movement schedules and T Plant cell cleanout schedules are impacted by the ORR delay.

**Status:** The ORR Corrective Action Plan was completed and transmitted to RL for approval on December 26, 2001. RL approved the Plan, without change, on January 7, 2002. An Independent Assessment Team of Subject Matter Experts has been contracted by WM to validate T Plant readiness for fuel movement, and RL is developing a Verification Plan to oversee that readiness validation process. Cell cleanout commenced December 12, 2001; cell 10L has been completed, and cell 3R is forecast for completion by February 7, 2002.

**Corrective Actions**: Declare T Plant readiness to recommence the RL ORR by February 14, 2002. Coordinate with SNF and reschedule balance of T Plant production by March 2002.

#### **External Issue**

**Issue:** ATG's financial status jeopardizes project performance and TPA milestones.

**Status**: Discussion with the banks, unsecured creditors, and federal courts continue. Alternatives continue to be considered with other commercial contracting entities under the "broad spectrum" contracts and on-site deployments.

**Corrective Actions**: On-site treatment alternatives are continuing. Provide formal notification to RL that TPA Milestone M-91-12A is unachievable by February 8, 2002.

## **DOE** Requests

**Issue:** RL authorization of the safety basis for retrieval of buried TRU drums is critical path to startup during the third quarter of FY 2002.

**Status**: The Hydrogen Accumulation Study was transmitted to RL on November 15, 2001. The TRU Retrieval Documented Safety Analysis (DSA) is in the final stages of preparation. **Corrective Actions**: Submittal to RL will be extended three weeks to February 20, 2002 to ensue a comprehensive high quality DSA.

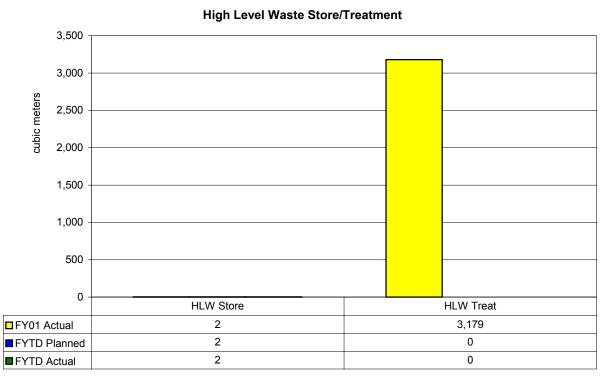
### Regulatory/DOE Issues

Nothing to report at this time.

## **BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS**

Nothing to report at this time.

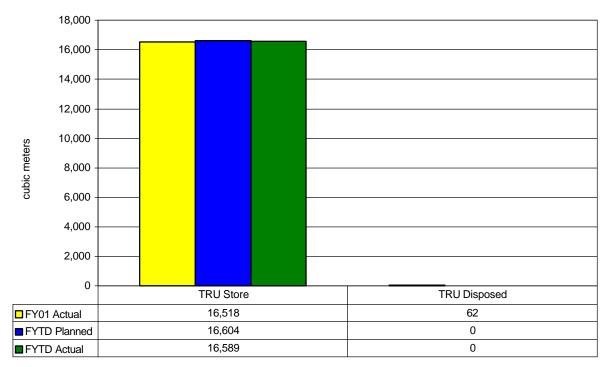
## High Level Waste (HLW): Storage and Treatment



**Storage:** Storage continues to be provided for HLW Cesium 137 and Strontium 90 capsules in the Waste Encapsulation and Storage Facility Pool Cells.

**Treatment:** No campaign to process HLW at the 242-A Evaporator was performed during the 1st quarter of FY02.

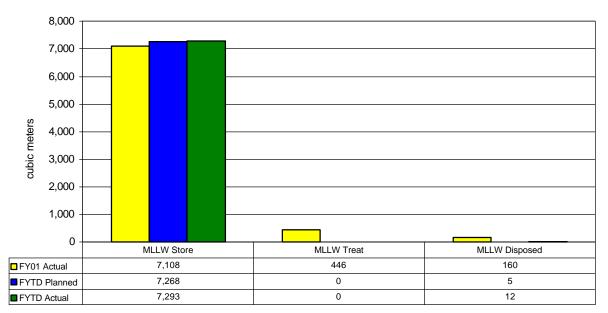
# TRANSURANIC (TRU) WASTE: STORAGE, TREATMENT AND DISPOSAL



**Storage**: Storage continues to be provided for existing and newly generated TRU waste.

**Disposal:** None planned this quarter.

## MIXED LOW LEVEL WASTE: STORAGE, TREATMENT, AND DISPOSAL

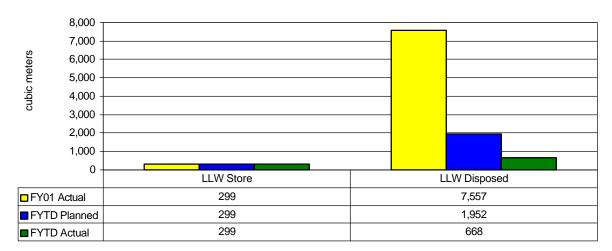


**Storage**: Storage continues to be provided for existing and newly generated MLLW waste. The current volume of MLLW in storage is within 10% of the planned amount.

Treatment: None planned this quarter...

**Disposal:** Received back and disposed of MLLW from ATG that was originally planned to be returned last FY resulting in more MLLW disposed than planned in the first quarter of FY02.

## LOW LEVEL WASTE (LLW): STORAGE, TREATMENT, AND DISPOSAL



**Storage**: Storage continues to be provided for LLW that does not meet waste acceptance criteria for disposal in the burial grounds.

**Disposal:** Less LLW was disposed in the first quarter than planned as a results of a combination of the Low Level Waste Burial Grounds being virtually shut down the last two and one half weeks of December because of monthly and annual routines being performed; schedule slippages; and verification requirements on waste that was received but has not yet been disposed. At this point it is expected the FY forecast volumes will be met.